

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A method of estimating traffic values or intervals in a communications network, the network comprising a plurality of nodes being interconnected by links, the method comprising the steps of

(a) obtaining traffic data through said nodes or links as input data comprising traffic measurements for said links obtained from one or more of the nodes in the network;

(b) obtaining network data relating to the network topology and network behaviour, said network data comprising end-to-end paths in the network; and

(c) estimating the effect of a modification of said communications network or its behaviour by calculating traffic information between a selected first and a selected second node of said network using said input data.

Claim 2 (original): A method according to claim 1, wherein said traffic information is a cumulated traffic flow.

Claim 3 (canceled).

Claim 4 (previously presented): A method according to claim 1, wherein said modification of said network or network behaviour comprises one or more of: a modification of the network topology, a modified routing algorithm parameter, a modified traffic engineering constraint or a modified traffic load.

Claim 5 (previously presented): A method according to claim 1, further comprising the step of correcting said input traffic data if inconsistencies are detected.

Claim 6 (previously presented): A method according to claim 1, wherein said traffic information is calculated using linear constraints in a traffic flow model.

Claim 7 (previously presented): A method according to claim 1, further comprising evaluating the impact of the network or network behaviour modification from the calculated traffic information.

Claim 8 (previously presented): A method according to claim 1, repeating step (c) for different pairs of said first and second nodes corresponding to different modifications.

Claim 9 (original): A method according to claim 8, further comprising the step of selecting, according to predefined criteria, one or more candidates for modifying said communications network corresponding to one or more of said modifications.

Claim 10 (original): A method according to claim 9, further comprising the step of calculating a detailed analysis of traffic values or traffic intervals for one or more of the selected candidates.

Claim 11 (original): A method according to claim 10, wherein said traffic values or intervals are calculated using a traffic flow model being based on

- (a) traffic data measurements through said nodes and links as input data; and
- (b) a plurality of constraints describing network topology and behaviour.

Claim 12 (currently amended): A method of calculating traffic values or intervals in a communications network, the communications network comprising a plurality of nodes, the nodes being connected to one another by links, the method of comprising:

calculating the cumulated traffic flow between a first and second of said nodes in a traffic flow model using linear constraints;

said traffic flow model being based on

(a) traffic data measurements through said nodes and links as input data; and

(b) a plurality of constraints describing the network topology and behaviour;

and

correcting said input data if inconsistencies are detected, wherein correcting comprises using said traffic data measurements and said constraints.

Claim 13 (canceled).

Claim 14 (canceled).

Claim 15 (currently amended): A method of modifying a communications network, the network comprising a plurality of nodes being interconnected by links, the method comprising the steps of

(a) obtaining traffic data through said nodes or links as input data comprising traffic measurements for said links obtained from one or more of the nodes of the network;

(b) obtaining network data relating to the network topology and network behaviour, said network data comprising end-to-end paths in the network;  
and

(c) automatically selecting promising candidates for a network modification by calculating a cumulated flow using said traffic and network data, wherein the candidates are selected according to predefined selection criteria.

Claim 16 (previously presented): An apparatus for calculating traffic values in a communications network, adapted to perform the method of claim 15.

Claim 17 (previously presented): A network management system for managing a network, adapted to perform the method of claim 15.

Claim 18 (currently amended): A computer-readable storage medium encoded with a computer program for modifying a communications network, the network comprising a plurality of nodes being interconnected by links when operated in a computer system; the computer program comprising:

code for obtaining traffic data through said nodes or links as input data comprising traffic measurements for said links obtained from one or more of the nodes in the network;

code for obtaining network data relating to the network topology and network behaviour, said network data comprising end-to-end paths in the network; and

code for automatically selecting promising candidate for a network modification by calculating a cumulated flow using said traffic and network data, wherein the candidates are selected according to predefined selection criteria.

Claim 19 (canceled).

Claim 20 (new): The method of claim 12 wherein said constraints comprise:  
for each route, traffic coming in is equal to traffic going out; and  
for each link between an interface j of a router i and an interface l of a router k,  
outgoing traffic data on the interface j from the router i is equal to incoming traffic data  
on the interface l of the router k.

Claim 21 (new): The method of claim 1 wherein said network data further  
comprises router and routing information.

Claim 22 (new): The method of claim 1 wherein estimating the effect of a  
modification comprises utilizing cumulated flow analysis.

Claim 23 (new): The method of claim 1 further comprising generating a traffic  
flow model utilizing said traffic and network data and utilizing said traffic flow model to  
estimate the effect of said modification.